

इंटरनेट

मानक

### Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 13533 (1992): Fluid power cylinders - Piston rod thread dimensions and types [PGD 16: Fluid Power]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



IS 13533 : 1992  
ISO 4395 : 1978

भारतीय मानक

तरल पावर सिलिंडर – पिस्टन छड़ चूड़ी आयाम  
और प्रकार

*Indian Standard*

FLUID POWER CYLINDERS — PISTON ROD  
THREAD DIMENSIONS AND TYPES

UDC 621'8'032 : 621-242 : 621'882 : 006'78

© BIS 1992

**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

October 1992

Price Group 1

#### NATIONAL FOREWORD

This Indian Standard which is identical with ISO 4395 : 1978 'Fluid power systems and components — Cylinders — Piston rod thread dimensions and types' issued by the International Organization for Standardization ( ISO ) was adopted by the Bureau of Indian Standards on the recommendations of the Hydraulic Fluid Power Systems Sectional Committee ( PE 15 ) and approval of the Production Engineering Division Council.

The text of the ISO Standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma ( , ) has been used as a decimal marker in the International Standard while in Indian Standards the current practice is to use point ( . ) as the decimal marker.

## *Indian Standard*

# FLUID POWER CYLINDERS — PISTON ROD THREAD DIMENSIONS AND TYPES

## 0 INTRODUCTION

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within a circuit. One component of such systems is the fluid power cylinder. This is a device which converts power into linear mechanical force and motion. It consists of a movable element, i.e. a piston and piston rod, operating within a cylindrical bore.

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard establishes a basic series for piston rod threads for application to hydraulic and pneumatic fluid power cylinders.

It also specifies thread dimensions and configurations to be used with hydraulic and pneumatic fluid power piston rod ends.

## 2 DEFINITIONS

**2.1 cylinder :** A device which converts fluid power into linear mechanical force and motion.

**2.2 piston rod :** The element transmitting mechanical force and motion from the piston.

**2.3 piston rod thread :** A thread by which the piston rod is to be attached to any component outside the cylinder.

## 3 TYPES AND DIMENSIONS

**3.1** Refer to figures 1, 2 and 3 for identification of piston rod thread types.

**3.2** Select the thread sizes from the dimensions shown in the table.

## 4 IDENTIFICATION STATEMENT (Reference to this International Standard)

Use the following statement in test reports, catalogues and sales literature when electing to comply with this International Standard :

"Piston rod thread dimensions and types selected in accordance with ISO 4395, *Fluid power systems and components — Cylinders — Piston rod thread dimensions and types.*"

TABLE – Piston rod threads

Dimensions in millimetres

Thread sizes	Thread length, $L$ <sup>1)</sup>	
	short type	long type <sup>2)</sup>
M3 x 0,35	6	9
M4 x 0,5 <sup>3)</sup>	8	12
M5 x 0,5	10	15
M6 x 0,75 <sup>3)</sup>	12	16
M8 x 1 <sup>3)</sup>	12	20
M10 x 1,25	14	22
M12 x 1,25	16	24
M14 x 1,5	18	28
M16 x 1,5	22	32
M18 x 1,5	25	36
M20 x 1,5	28	40
M22 x 1,5	30	44
M24 x 2	32	48
M27 x 2	36	54
M30 x 2	40	60
M33 x 2	45	66
M36 x 2	50	72
M42 x 2	56	84
M48 x 2	63	96
M56 x 2	75	112
M64 x 3	85	128
M72 x 3	85	128
M80 x 3	95	140
M90 x 3	106	140
M100 x 3	112	—
M110 x 3	112	—
M125 x 4	125	—
M140 x 4	140	—
M160 x 4	160	—
M180 x 4	180	—
M200 x 4	200	—
M220 x 4	220	—
M250 x 6	250	—
M280 x 6	280	—

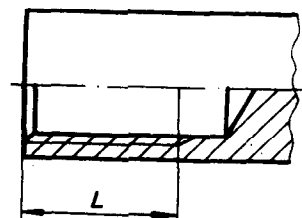


FIGURE 1 – Female thread

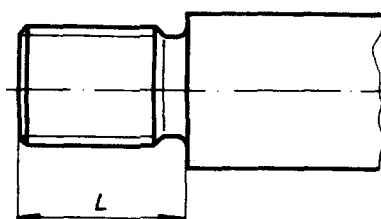


FIGURE 2 – Shouldered male thread

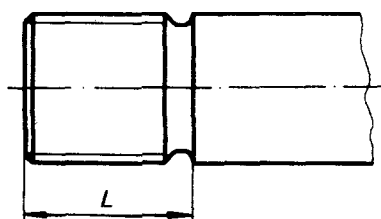


FIGURE 3 – Unshouldered male thread

1) Female thread  $L$  is a minimum measure; male thread  $L$  is a maximum measure.

2) When locknuts are required for adjustment, use the long type thread lengths.

3) For specific pneumatic purposes, use the following thread sizes : M4 x 0,7, M6 x 1 and M8 x 1,25.

#### **Standard Mark**

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.



## Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

### Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

### Revision of Indian Standards

Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

Doc : No. PE 15 ( 5528 )

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002  
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha  
( Common to all Offices )

### Regional Offices :

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg  
NEW DELHI 110002

Telephone

{331 01 31  
331 13 75

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola  
CALCUTTA 700054

{37 84 99, 37 85 61,  
37 86 26, 37 86 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036

{53 38 43, 53 16 40,  
53 23 84

Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113

{235 02 16, 235 04 42,  
235 15 19, 235 23 15

Western : Manakalaya, E9 MIDC, Marol, Andheri ( East )  
BOMBAY 400093

{632 92 95, 632 78 58,  
632 78 91, 632 78 92

Branches : AHMADABAD, BANGALORE, BHOPAL, BHUBANESHWAR, COIMBATORE,  
FARIDABAD, GHAZIABAD, GUWAHATI, HYDERABAD, JAIPUR, KANPUR,  
LUCKNOW, PATNA, THIRUVANANTHAPURAM.